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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,618	09/29/2003	Katsuhisa Yamazaki	02910.000081	6254

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NEW YORK, NY 10112

EXAMINER
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DOE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/671,618

Applicant(s)

YAMAZAKI ET AL.

Examiner

Janis L. Dote

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1756

1. The examiner acknowledges the cancellation of claims 3 and 4 and the amendments to claims 1 and 2 set forth in the amendment filed on Dec. 13, 2004. Claims 1 and 2 are pending.

2. The objection to the specification set forth in the office action mailed on Sep. 8, 2004, paragraph 2, has been withdrawn in response to the amended paragraphs filed on Dec. 13, 2004, at pages 16, 18, 40-43, 45, 46, 50, and 51, of the specification.

3. The examiner notes that the instant specification at page 16, line 23, to page 17, line 5, discloses that the concentration of surface atoms recited in instant claim 1 is "estimated based on the measured peak strength of each element [as measured by X-ray photoelectron spectroscopy] . . . [f]or calculation of surface atom concentration, the atom concentration of all the metal atoms detected by the above measurement is converted to 100%, and thereafter, the concentration of each metal atom is calculated." In other words, the concentrations of surface atoms recited in instant claim 1 are based on the total number of metal atoms, which include Si, Fe, and Zn, present on the surface of the magnetic iron oxide.

Art Unit: 1756

The instant specification at page 16, lines 24-25, also discloses that the "ratio of the respective atoms is calculated from the concentration of atoms." In other words, the Zn/Si, Fe/Si, and Fe/Zn ratios recited in instant claim 1 are based on the number of the respective atoms present on the surface of the magnetic iron oxide.

In their response filed on Dec. 13, 2004, applicants did not present any comments regarding the examiner's interpretations.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,007,957 (Kobori) combined with US 5,773,183 (Doujo).

Kobori discloses a magnetic toner comprising a styrene-n-butyl acrylate binder resin and the magnetic iron oxide A. See example 1 at cols. 25-26, and Table 2 at col. 27, example 1. The magnetic iron oxide A comprises 0.6% by weight of Si and 0.6 % by weight of Zn based on the weight of the iron oxide. See Table 1 at col. 24, magnetic oxide A. The amounts of Si

Art Unit: 1756

and Zn are within the amount ranges recited in instant claims 1 and 2.

Kobori does not disclose the concentration of Si, Fe, and Zn atoms present or the atomic ratio of Zn/Si, Fe/Si, and Fe/Zn on the outermost surface of the magnetic iron oxide, as recited in instant claim 1.

The instant specification at page 4, lines 15-17, discloses that its magnetic toner provides images with stable image quality and image density after a long-term of use, and that the toner has excellent environmental stability. The instant specification further discloses that when the concentrations of Si and Zn atoms are outside the ranges recited in instant claim 1, the image density is likely to decrease and/or fogging is likely to increase. Specification, page 8, lines 10-17, and page 9, lines 2-12. The specification discloses that when the concentration of Fe is less than 70%, the concentration of Zn is less than 1.00%, and the ratio Fe/Si is lower than 3.00, in environments of high humidity and high temperature, the image density decreases on "boot-up." Specification, page 8, lines 17-21, page 9, lines 2-7, and page 10, lines 1-7. When the concentration of Fe is more than 85% and the ratio of Fe/Si is larger than 70.00, the dot reproducibility degrades and scattering of toner on the paper increases. Specification,

Art Unit: 1756

page 8, line 17, to page 9, line 1, and page 10, lines 8-15.

The specification discloses that when the Zn/Si and Fe/Si ratios are outside the ratio ranges recited in instant claim 1, the image density is likely to decrease and fogging is likely to increase. Specification, page 9, lines 16-27, and page 10, line 16, to page 11, line 1.

As discussed above, the Kobori magnetic iron oxide comprises Si and Zn in amounts that meet the amount ranges recited in instant claims 1 and 2. In addition, when making the magnetic iron oxide, Kobori discloses that "the pH was adjusted in the final state of the oxidization reaction to localize the silicate component and zinc component in the surface of the magnetic iron oxide particles." Col. 22, lines 61-64. Kobori also discloses that its magnetic toner can provide high density images with excellent reproducibility. The magnetic toner exhibits stable chargeability and provides images with no fogging after long-term use. The toner also exhibits excellent chargeability and storage properties, even in environments of high humidity. Col. 5, lines 10-23, and Table 2, example 1. According to Kobori, the magnetic toner in example 1 of Kobori provided images with stable image density in environments of high temperature and high humidity after a long period of time. The magnetic toner in example 1 also provided images with little

Art Unit: 1756

fogging and very good dot reproducibility in environments of high humidity and high temperature. See Table 2, example 1. Thus, it appears that the magnetic toner in example 1 of Kobori exhibits the properties sought by applicants.

Accordingly, it is reasonable to presume that the magnetic iron oxide present in the magnetic toner in example 1 of Kobori comprises Si, Zn, and Fe atoms in the surface concentrations and atomic ratios recited in instant claim 1. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Kobori does not exemplify a magnetic toner comprising a polyester binder resin as recited in instant claim 1. However, Kobori teaches that the binder resin can equally be a polyester resin. Col. 11, lines 28-29.

Doujo discloses a polyester binder resin having an acid value of 28 mg KOH/g, a hydroxyl value of 40 mg KOH/g, and a particular molecular weight distribution. Col. 16, line 17, to col. 17, line 4, and resin production example 1 at cols 17-18. According to Doujo, a toner comprising such a polyester binder resin exhibits superior low-temperature fixing and high-temperature anti-offset properties. The toner shows superior fixing performance even at halftone image areas. The toner has superior environmental stability. Col. 2, lines 50-64, and

Art Unit: 1756

Table 3 at col. 3, example 1. Doujo further discloses that the polyester resin may be used as the binder resin in a magnetic toner. Col. 11, lines 7-41.

It would have been obvious for a person having ordinary skill in the art to use the polyester binder resin disclosed by Doujo as the binder resin in the magnetic toner in example 1 of Kobori, because that person would have had a reasonable expectation of successfully obtaining a magnetic toner having the properties disclosed by Doujo.

Applicants' arguments filed on Dec. 13, 2004, have been fully considered but they are not persuasive.

Applicants assert that the concentration of Zn atoms in the outermost surface of the magnetic iron oxide used in Kobori "would be significantly less than the 1.00% which is the lower limit claimed in the present invention." Applicants base their the assertion on "the experience of the present inventors" and the Kobori disclosure at col. 22, lines 60-64, Table 1 at col. 4, and Table 3 at col. 29, of magnetic iron oxides having a Zn content ranging from 0.5 to 0.6, with a pH in the final stage of the oxidation reaction being 8.

However, applicants' assertions regarding the Zn content in the magnetic oxide in example 1 of Kobori and the inventors' experience are mere attorney argument. Applicants have not



Art Unit: 1756

provided any objective evidence supporting their assertions. Furthermore, for the reasons discussed in the above rejection, it is reasonable to presume that the magnetic iron oxide present in the magnetic toner in example 1 of Kobori comprises Si, Zn, and Fe atoms in the surface concentrations and atomic ratios recited in instant claim 1. Applicants have not carried their burden to prove otherwise. Accordingly, for the reasons discussed in the above rejection, the rejection of claims 1 and 2 over the combined teachings of the cited prior art stand.

6. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L.

Art Unit: 1756

Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Mar. 20, 2005

*Janis L. Dote*  
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PRIMARY EXAMINER  
GROUP 1500  
1700